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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/627,166	07/25/2003	Charles E. Price	046478/263692	2507

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ALSTON & BIRD LLP
BANK OF AMERICA PLAZA
101 SOUTH TRYON STREET, SUITE 4000
CHARLOTTE, NC 28280-4000

EXAMINER	
MARCANTONI, PAUL D	
ART UNIT	**PAPER NUMBER**
1755	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/08/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/627,166	PRICE, CHARLES E.	
	Examiner	Art Unit	
	Paul Marcantoni	1755	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *1/12/07 RCE*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-5,8-14,17,18,20-22,25-27,29,32-34,36,37 and 39-46* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 3-5, 8-14, 17, 18, 20-22, 25-27, 29, 32-34, 36, 37, and 39-46* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

The applicants 1/12/07 RCE and response is acknowleged but not persuasive.

35 USC 112 First Paragraph (Enablement):

Claims 1, 3-5, 8-14, 17, 18, 20-22, 25-27, 29, 32-34, 36, 37, and 39-46 are rejected under the first paragraph of 35 USC 112 as they are not commensurate with an enabling disclosure nor do they enable one of ordinary skill of the art to make or practice their invention.

Applicants also do not provide the specific amounts of coarse portion (aggregate) and fine portion (aggregate) bottom ash critical to obtain their high compressive strengths in their claims. According to their data tables, applicants use a specific amount of coarse and fine portions yet this is not part of any pending claims (ie see claim 1, it is not present). Without this critical amount of coarse and fine portion of bottom ash, one of ordinary skill in the art would not be enabled to obtain applicants' high compressive strengths.

It is also noted that applicants are still silent with respect to the specific particle size range for coarse and fine aggregate bottom ash used in their Figures/Tables. They still have not addressed what specific particle size range was used for coarse bottom ash and what specific particle size range was used for fine bottom ash.

Also, confusion ensues as applicants have taken what they define as the coarse portion as between 0.75 to 0.003 inches particle size and fine portion of particle size less than 0.006 inches. It is evident that the coarse and fine portions overlap. The coarse portion can potentially be the same as the fine portion as both can have a particle size of, for example, 0.003 inches according to applicants defined range of what

they deem coarse and fine portions. Having said that, again it is noted that applicants Tables/Figures are vague because it is unclear what particular particle size or ranges of particle size were even used for the examples? The original disclosure is silent in that regard and one of ordinary skill in the art would not have any idea how to determine what actual particle size range was even used for the coarse portion and fine portion in applicants' examples.

The applicants' claims are also non-enabling for their claimed high compressive strengths because they cannot obtain these high compressive strengths without a water/cement ratio of 0.35 to 0.78. (See Figures 7A and 7B) . This is not a suggestion but an observation of a critical aspect that is missing from applicants' claims.

35 USC 112 Second Paragraph:

Claims 1, 3-5, 8-14, 17, 18, 20-22, 25-27, 29, 32-34, 36, 37, and 39-46 are rejected under the second paragraph of 35 USC 112 as failing to set forth the subject matter applicants regard as their invention.

The terms "first portion" and "second portion" (previously coarse and fine portion respectively, eg claim 1 and others) are indefinite because there is overlap between both sizes and it is not possible to distinguish clearly between the two portions in all independent claim or wherever it occurs in applicants' claims.

The terms "an effective amount" (of bottom ash) can now be deleted to streamline applicants' claim. They already provide a range of amounts of cement to bottom ash so these terms applicants may wish to consider deleting. The same is the

case for "an effective amount" (of Portland cement). Deletion of these terms may be considered.

The terms "effective amount" of water is still indefinite throughout the applicants' claims. Applicants high compressive strengths require specific ranges of amounts of water/cement and outside this specific range applicants will not obtain their high compressive strengths. The term effective does not necessarily mean the high compressive strengths as disclosed in the Figures/Tables or other dependent claims and it is improper for applicants to read the limitations of the specification or dependent claims into the independent claims. This would have been correctable by adding the specific water to cement/ratio of ***0.35 to 0.78*** from their examples yet applicants have not inserted this limitation into their claims. This is not a suggestion but an observation of a critical and necessary limitation missing from applicants' claims.

Objection to Original/Substitute Specification or Original Disclosure:

The original disclosure is objected to because applicants do not provide the specific particle size for what they used for coarse aggregate and fine aggregate to obtain their compressive strengths in Figures 7A, 7B, 8A, 8B, and 9A. This would be resolved if applicants can provide the specific particle size for each actually used for testing in the examples to remove this objection. Note that the particle sizes must already be listed in the original disclosure because presentation of particle sizes not within the literal teaching of the original disclosure can be construed to be new matter. It is also noted as was previously stated the fine and coarse portions can potentially

overlap. Both are defined within specific ranges and both can even have the same particle size of, for example, 0.003 inches which adds more confusion as to what applicants actually used in their examples. This critical information regarding specific particle size of coarse and fine particle size is an omission that would not enable one of ordinary skill in the art to make or practice applicants' claimed invention.

New Matter:

Claims 1, 3-5, 8-14, 17, 18, 20-22, 25-27, 29, 32-34, 36, 37, and 39-46 are rejected under the first paragraph of 35 USC 112 and 35 USC 132 as the specification as originally filed does not provide support for the invention as is now claimed.

The terms "approximately 1.125 gallons of water per cubic foot of cementitious composition to approximately 1.96 gallons per cubic foot of cemntitious composition" are new matter. Applicants are limited to a cement composition having a ratio of bottom ash to cement of about 2:1. (See page 12, lines 20-24 of applicants' specification). Applicants do not have support for any ratio other than "about 2:1" and cannot include the broader range of up to 2:3 as they claim.

35 USC 102/103 Rejection:

Claims 1, 3-5, 8-14, 17, 18, 20-22, 25-27, 29, 32-34, 36, 37, and 39-46 are rejected under 35 USC 102 (a and b) as anticipated by, or in the alternative, under 35 USC 103(a) as obvious over Hopkins '075, Nisnevich et al. '751, Shulman '547 B2, , Brewer et al. '950 or '261, Jones '973.

Note: Doty et al. '446, Merkley et al. '744 B2, '745 B2, '246 B2, or '883 A1, Lee et al. (KR 2002055481-abstract only), Naik et al. (abstract only), Lai (abstract only), and

Lim (KR 2002006569-abstract only) have been withdrawn. Doty and Merkley do not teach the applicants' claimed compressive strengths and none of the foreign abstracts teach the applicants' claimed compressive strengths of at least 4000 to 6000 psi for 7 day and 28 day compressive strengths. These references have thus been withdrawn.

Suggestion: Applicants may consider insertion of the ranges of a 7 day compressive strength of at least 5000 psi and 28 day compressive strength of at least 6000 psi into claim 1 (such as that in claim 4) and all of their independent claims. References such as Jones and others would be withdrawn because they do not teach this higher range of compressive strength. However, others do appear to teach this higher compressive strengths such as Shulman and Hopkins. At least the other references would be removed upon this amendment though as they would not teach this specific limitation. It is improper for applicants to argue this limitation however from their dependent claims into their independent claims and thus it is respectfully requested this amendment be made to remove several references.

Response to Applicants' Arguments:

35 USC 112 Enablement:

The applicants indicate the examiner is looking for a clear demarcation between coarse and fine portions to distinguish between the two because both sizes overlap. Applicants amended their "coarse" and "fine" to "first" and "second" but this does not resolve the problem. The examples still call for using coarse and fine particles but there is clear overlap between both sizes so one of ordinary skill in the art would have been unable to determine the specific particle sizes necessary to obtain the high compressive strengths of applicants' instant invention.

The applicants argue that the problem is one of *meaning* of the terms coarse and fine for the examiner. The examiner respectfully disagrees. The problem is one of

overlap between a particle size applicants define as coarse and a particle size applicants define as fine. There is no way because of this overlap in particle size as to what is coarse or fine to determine how many coarse and fine particle size particles (what weight percentages) was used for each because of the problem of overlap to obtain the applicants' compressive strengths. (again, refer to Figure 7A of applicants which discloses coarse and fine but no particular range of particle size used that is coarse and fine.

35 USC 112 Second Paragraph:

The examiner also notes the terms "effective amount" (regarding water and bottom ash) while not indefinite should be deleted throughout the claims as it is redundant and un-necessary in the claim especially since the applicants provide now the effective amounts of water (the claimed gallons of water and the specific ratio of amounts of bottom ash to cement.

The applicants new limitation for water amounts is new matter because it is limited only to a cement composition having a ratio of bottom ash to cement of about 2:1 (see p.12, lines 20-24 of applicants' specification). Note that applicants high compressive strengths are limited to a specific water to cement/ratio of ***0.35 to 0.78*** from their examples yet applicants have not inserted this limitation into their *independent* claims (See Figures 7A and 7B to see that this is the only range that permits applicants' claimed high compressive strengths). Applicants do not have

support for any amount of water than this range to obtain their claimed high compressive strengths.

Objection to the Specification/Original Disclosure:

The applicants note that the previous office action stated that the particles sizes for the coarse and fine aggregate portions of the bottom ash in Figures 7A, 7B, 8A, and 9A to obtain the high compressive strengths were not disclosed. The applicants disagree stating that Figure 7C provides a sieve analysis (particle size analysis) for the fine and coarse portions of the bottom ash in each of the seven mixtures identified in Figures 7A and 7B.

In response, applicants have not addressed the problem or answered the question asked by the examiner in his 7/12/06 final rejection office action. That question is what is the line of demarcation or particle size that applicants use from Figure 7C that they held to be coarse and what where the particle size they held to be fine? Without this information, one of ordinary skill in the art would have not been able to determine the specific amounts of coarse aggregate portion and fine aggregate portion as shown in Figures 7A and 7B to obtain the high compressive strengths.

The examiner agrees that Figure 7C does provide the specific particle size but provides absolutely no help as to figure out what particle size (or sieve size) for each of mixes 1 through 7 was added as coarse aggregate and which was added as fine aggregate to the cements of Figures 7A and 7B. The objection to the specification thus remains and is maintained.

35 USC 103:

The examiner has removed many references from the 35 USC 103 rejection and provided a suggestion about how to remove more references above. It is hoped that applicants can make this suggested change to further simplify issues and the number of references to possibly two or less (depending upon which ones teach their high compressive strengths).

The examiner maintains that the prior art does teach applicants' particle size ranges and thus overlaps it. Even assuming it did not, control of particle sizes would have been an obvious design choice for one of ordinary skill in the art absent a showing of criticality or unexpected results (e.g. such as compressive strengths). The applicants can show criticality or unexpected result over the prior art by simply inserting the limitations of claim 4 into their independent claims to remove many references (though some references in the 103 still teach it).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Marcantoni whose telephone number is 571-272-1373. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Paul Marcantoni
Primary Examiner
Art Unit 1755